

Listing of the Claims:

1. (Currently amended) A method for illuminating an object, comprising[[],]:
determining a nominal illumination angle for the object; and
positioning a light source at an angle ~~complimentary~~ complementary to the nominal illumination angle of the object.
2. (Original) A method as in claim 1 wherein the nominal illumination angle is empirically determined.
3. (Original) A method as in claim 1 wherein the nominal illumination angle is mathematically determined.
4. (Original) A method as in claim 1 wherein the light source is positioned to subtend less than the entire object.
5. (Original) A light source for a manufacturing inspection system, the light source for illuminating an object, wherein the object has a nontrivial bi-directional reflectance distribution function and includes a nominal illumination angle comprising:
a plurality of discrete light sources arranged in two dimensions and positioned at an angle complementary to the nominal illumination angle.
6. (Original) A light source as in claim 5 wherein the discrete light sources are LEDs.
7. (Currently amended) A light source as in claim 6 wherein the

LEDs are mounted to a flexible printed circuit board, and the circuit board is in the shape of a cone such that ~~the a plane of~~ the cone is symmetrically positioned an angle complementary to the nominal angle about a line perpendicular to a surface of the object.

8. (Original) A light source as in claim 6 wherein the LEDs are mounted to at least two rigid circuit boards, the circuit boards being symmetrically positioned around the object at an angle complementary to the nominal angle.

9. (Currently amended) A device for inspecting semiconductor devices, ~~the semiconductor devices including~~ having a nontrivial bi-directional reflectance distribution function ~~and including a nominal illumination angle~~, the device including a sensing element and a lens arrangement, the improvement comprising:

a two dimensional light source positioned at an angle complementary to ~~the a~~ a nominal illumination angle of a semiconductor device.

10. (Original) A device as in claim 9 wherein the light source is a two dimensional collection of LEDs.

11. (Original) A device as in claim 10 wherein the collection of LEDs is arranged as a cone.

12. (New) The method as in claim 1, further comprising:
positioning a detecting lens arrangement along a line perpendicular to a surface of the object.

13. (New) The light source as in claim 5 wherein the plurality of discrete light sources are positioned symmetrically about a line perpendicular to a

surface of the object; and wherein a lens arrangement is located symmetrically about the line on a side of the plurality of discrete light sources opposite the surface.

14. (New) The device as in claim 9 wherein the lens arrangement is positioned symmetrically about a line perpendicular to a surface of the semiconductor device.